

**REMARKS**

This Application has been carefully reviewed in light of the Office Action mailed December 21, 2004. Claims 1-54 were pending in the Application. Claims 1 and 12 have been amended and Claim 54 has been canceled. For the reasons given below, Applicants submit that the pending claims are patentably distinguishable over the cited reference. Applicants, therefore, respectfully request reconsideration and favorable action in this case.

**Section 102 Rejections**

The Examiner rejects Claims 12-19, 37-39, 41-43, 49-50, and 54 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,111,322 issued to Bergano et al. ("Bergano").

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ.2d 1051, 1053 (Fed. Cir. 1987); M.P.E.P. § 2131. In addition, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claims" and "[t]he elements must be arranged as required by the claim." *Richardson v. Suzuki Motor Co.*, 9 USPQ.2d 1913, 1920 (Fed. Cir. 1989); *In re Bond*, 15 USPQ 2d 1566 (Fed. Cir. 1990); M.P.E.P. § 2131 (*emphasis added*).

Independent Claim 12 of the present application, as amended, recites the following:

A method for receiving a signal, comprising:  
generating a polarized local signal based on receiver-side feedback;  
combining an ingress traffic signal with the polarized local signal to generate a combined signal;  
splitting the combined signal into a first split signal and second split signal;  
detecting the first split signal; and  
detecting the second split signal.

Claim 37 recites similar, although not identical, limitations.

*Bergano* does not anticipate Claim 12 (or Claim 37) since it does not disclose each and every one of these limitations. For example, *Bergano* does not disclose “generating a polarized local signal based on receiver-side feedback.” The Examiner asserts that this limitation is disclosed at Column 5, lines 38-44 of *Bergano* and with reference to element 408 of Figure 4. However, the feedback to element 408 is not used to generate a polarized local signal, as required by Claim 12. Instead, this feedback is used to create an error signal that is input to polarization controller 402 to track and correct for polarization changes in an input signal. Thus, a local signal is *not* generated based on this feedback – instead, the feedback is used to change the polarization of the already-existing input signal received by the system.

Similarly, *Bergano* does not disclose “combining an ingress traffic signal with the polarized local signal to generate a combined signal.” The Examiner asserts that this limitation is performed by polarization controller 402 of Figure 4. However, polarization controller 402 does not combine any signals – it adjusts the polarization of the input signal 401 based on an error signal. The input signal is not combined with the error signal or with any other signal. Furthermore, because *Bergano* does not disclose combining signals, it also does not disclose “splitting the combined signal into a first split signal and second split signal.”

For at least these reasons, Claims 12 and 37 are in condition for allowance. Therefore, Applications respectfully request reconsideration and allowance of Claims 12 and 37, as well as Claims 13-19 and 38-50, which depend from one of these allowable independent claims.

### **Section 103 Rejections**

The Examiner rejects Claims 1-10, 20-36, 40, 44-48, and 51-53 under 35 U.S.C. § 103(a) as being unpatentable over *Bergano*.

As noted by the Examiner, *Bergano* differs from the invention claimed in Claims 1, 20 and 51 in that it fails to teach that the second split signal is phase shifted prior to being modulated. The Examiner asserts that one skilled in the art would have recognized that it

would have been possible to reverse the order of the phase shifting and modulation and that the arrangement of the phase shifter relative to the modulator would not result in a significant difference in the product of the device of *Bergano*. Applicants respectfully disagree for the following reasons.

*Bergano* discloses a soliton-based system (for example, see Column 1, line 55 and Column 2, lines 23-25). A soliton-based system is a non-linear optical system, since solitons are based on optical non-linear effects. In contrast to linear systems, the ordering of elements in a non-linear system is important. Hence, the positioning of the phase shifter after the modulator is important in a soliton-based system, and placing the phase shifter before the modulator would impair the operation of the soliton system. Thus, it would not be obvious to one skilled in the art to change the order of the phase shifter and the modulator in *Bergano*.

For at least this reason, Claims 1, 20, and 51 are in condition for allowance. Therefore, Applicants respectfully request reconsideration and allowance of Claims 1, 20, and 51, as well as Claims 2-11 and 21-36, which depend from one of these allowable independent claims.

Regarding Claim 52, the Examiner rejects this claim on the basis that it recites a combination of individually rejected elements and is rejected on the same grounds. However, this claim includes limitations that are more similar to the limitations of Claim 12 and 37 than the limitations of Claim 1, 20, and 51. Therefore, Claim 52 is allowable for similar reasons as discussed above in conjunction with Claims 12 and 37, and Applicants respectfully request reconsideration and allowance of Claim 52.

Regarding Claim 53, the Examiner rejects this claim along with Claims 1, 20, and 51. However, there is no disclosure of generating a QPSK signal or intensity modulating the QPSK signal in *Bergano*, and the Office Action does not specifically address these limitations of Claim 53. Therefore, Applications also respectfully request reconsideration and allowance of Claim 53.

**CONCLUSION**

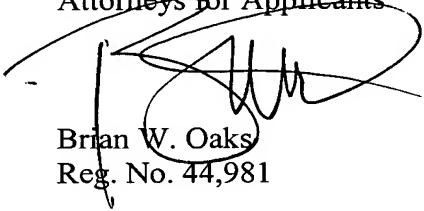
Applicants have made an earnest attempt to place this case in condition for allowance. For at least the foregoing reasons, Applicants respectfully request full allowance of all the pending claims.

If the present application is not allowed and/or if one or more of the rejections is maintained, Applicants hereby request a telephone conference with the Examiner and further requests that the Examiner contact the undersigned attorney to schedule the telephone conference.

Applicants believe no fees are due, however, the Commissioner is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 02-0384 of BAKER BOTTS L.L.P.

Respectfully submitted,

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